Appl. No. 10/569,511

Amdt. dated Jan. 4, 2008

Reply to FINAL action of July 6, 2007

**AMENDMENTS TO THE CLAIMS** 

This listing of claims will replace all prior versions and listings of claims in the

application:

**Listing of Claims:** 

Claims 1-3. (Canceled)

4. (Currently amended) In an apparatus for thixocasting a cast iron, comprising at least a

pair of dies that can be freely opened and closed to form a die cavity which is to be filled

with semi-molten cast iron under a pressure, injection means operable to inject the semi-

molten injected material into the die cavity through an injection path, and a gate located at

the entry of the die cavity so as to throttle entry from the injection means into the die cavity,

the improvement wherein the gate has a gate hole and is constituted from a separate gate

member and is disposed at the entry of the cavity each time an injection casting operation is

carried out and is taken out together with the casting after the injection casting operation is

completed, wherein the gate member has a projecting portion formed all around the gate hole

facing the injection path, the projecting portion including a wide, flat surface portion

which begins at the edge of the gate hole.

5. (Canceled)

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6. (Currently amended) In a method of thixocasting a cast iron, which comprises filling a

cavity in dies with a billet of semi-molten cast iron material that is injected through a gate

that throttles the entry of the cavity under a pressure, the improvement comprising the step of

covering a circumference of the billet made of the semi-molten cast iron material prior to

being injected through the gate by a steel sheet 0.2 to 0.5 mm thick and having a melting

point higher than that of the semi-molten cast iron material.

7. (Currently amended) The method of thixocasting a cast iron according to claim 6,

further comprising the step of injecting the semi-molten cast iron material through a gate hole

having a projecting portion formed all around the gate hole and facing the injection path, the

projecting portion including a wide, flat surface portion which begins at the edge of the

gate hole.

8. (Previously presented) The method of thixocasting a cast iron according to claim 6,

wherein the steel sheet is a stainless steel sheet.

9. (Previously presented) The method of thixocasting a cast iron according to claim 7,

wherein the steel sheet is a stainless steel sheet.

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